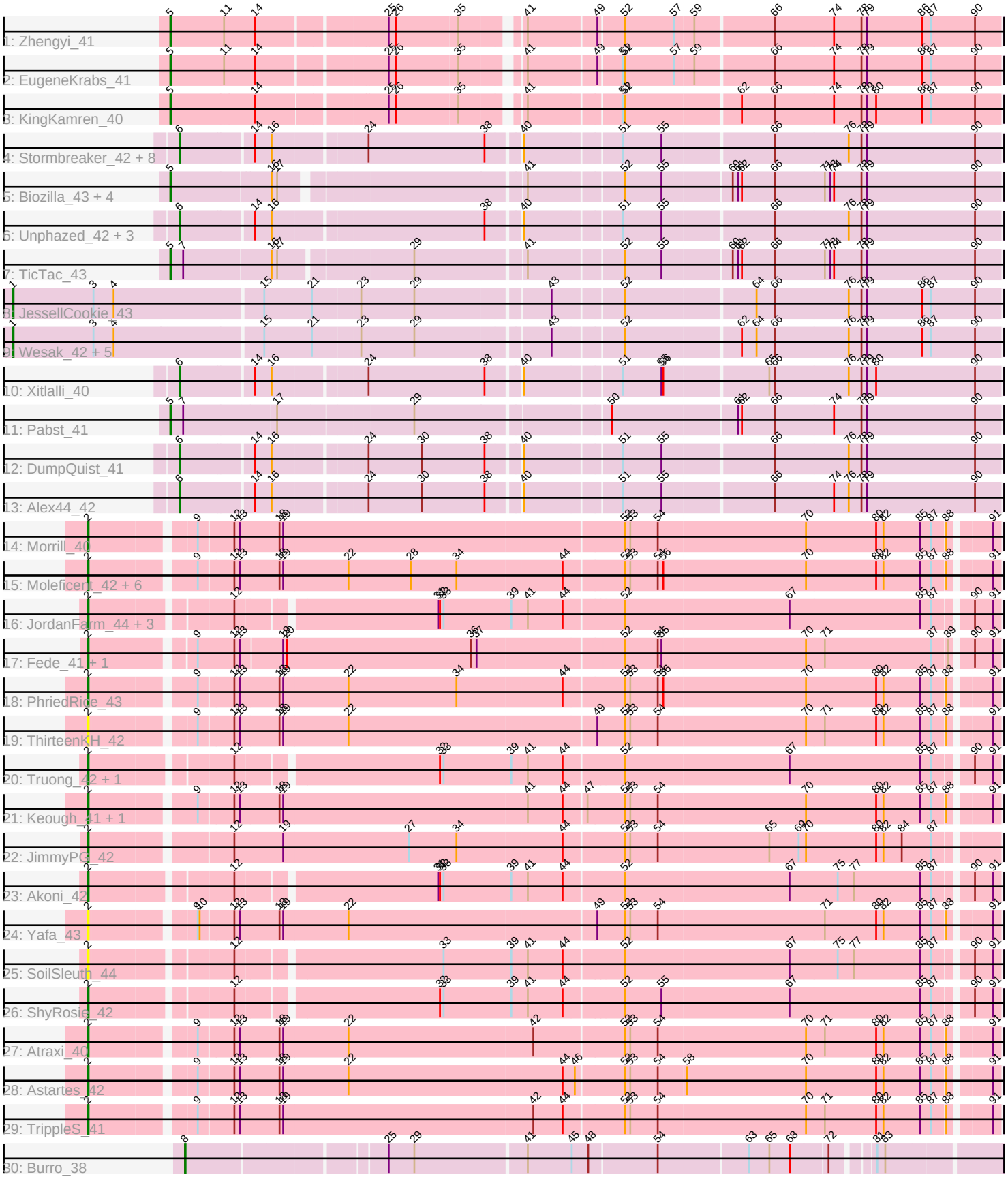
Pham 308625


1: Zhengyi_41
2: EugeneKrabs_41
3: KingKamren_40
4: Stormbreaker_42 + 8
5: Biozilla_43 + 4
6: Unphazed_42 + 3
7: TicTac_43
8: JessellCookie_43
9: Wesak_42 + 5
10: Xitlalli_40
11: Pabst_41
12: DumpQuist_41
13: Alex44_42
14: Morrill_40
15: Moleficent_42 + 6
16: JordanFarm_44 + 3
17: Fede_41 + 1
18: PhriedRice_43
19: ThirteenKH_42
20: Truong_42 + 1
21: Keough_41 + 1
22: JimmyPG_42
23: Akoni_42
24: Yafa_43
25: SoilSleuth_44
26: ShyRosie_42
27: Atraxi_40
28: Astartes_42
29: TrippleS_41
30: Burro_38

Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 308625 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308625 has 62 members, 10 are drafts.

Phages represented in each track:
• Track 1 : Zhengyi_41
• Track 2 : EugeneKrabs_41
• Track 3 : KingKamren_40
• Track 4 : Stormbreaker_42, LilyLou_43, ArMaWen_41, Dashyla_41, Birdfeeder_40, Phogo_42, BlueRugrat_41, LesNorah_42, SwissCheezer_41
• Track 5 : Biozilla_43, HitchHiker_44, CrunchyBoi_44, PineapplePluto_44, Oatly_43
• Track 6 : Unphazed_42, Conditioner_41, TownLake_40, Corn21_41
• Track 7 : TicTac_43
• Track 8 : JessellCookie_43
• Track 9 : Wesak_42, Sorvannah_42, Salvatore2000_42, YellowPanda_44, TinyTimothy_41, MiamiPanther_43
• Track 10 : Xitlalli_40
• Track 11 : Pabst_41
• Track 12 : DumpQuist_41
• Track 13 : Alex44_42
• Track 14 : Morrill_40
• Track 15 : Molefícent_42, Fullmetal_42, RicoCaldo_42, Phractured_42, Pharky_42, Phedro_42, StagePhright_42
• Track 16 : JordanFarm_44, Waterlily_45, Ashton_43, AloeVera_43
• Track 17 : Fede_41, Kosier_41
• Track 18 : PhriedRice_43
• Track 19 : ThirteenKH_42
• Track 20 : Truong_42, Barroma_41
• Track 21 : Keough_41, Mazun_43
• Track 22 : JimmyPG_42
• Track 23 : Akoni_42
• Track 24 : Yafa_43
• Track 25 : SoilSleuth_44
• Track 26 : ShyRosie_42
• Track 27 : Atraxi_40
• Track 28 : Astartes_42
• Track 29 : TrippleS_41
• Track 30 : Burro_38

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 2, it was called in 23 of the 52 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Akoni_42, AloeVera_43, Ashton_43, Astartes_42, Atraxi_40, Barroma_41, Fede_41, Fullmetal_42, JimmyPG_42, JordanFarm_44, Keough_41, Kosier_41, Mazun_43, Moleficent_42, Morrill_40, Pharky_42, Phedro_42, Phractured_42, PhriedRice_43, RicoCaldo_42, ShyRosie_42, SoilSleuth_44, StagePhright_42, ThirteenKH_42, TrippleS_41, Truong_42, Waterlily_45, Yafa_43,

Genes that have the "Most Annotated" start but do not call it:
•

Genes that do not have the "Most Annotated" start:
• Alex44_42, ArMaWen_41, Biozilla_43, Birdfeeder_40, BlueRugrat_41, Burro_38, Conditioner_41, Corn21_41, CrunchyBoi_44, Dashyla_41, DumpQuist_41, EugeneKrabs_41, HitchHiker_44, JessellCookie_43, KingKamren_40, LesNorah_42, LilyLou_43, MiamiPanther_43, Oatly_43, Pabst_41, Phogo_42, PineapplePluto_44, Salvatore2000_42, Sorvannah_42, Stormbreaker_42, SwissCheezer_41, TicTac_43, TinyTimothy_41, TownLake_40, Unphazed_42, Wesak_42, Xitlalli_40, YellowPanda_44, Zhengyi_41,

Summary by start number:

Start 1:
• Found in 7 of 62 (11.3%) of genes in pham
• Manual Annotations of this start: 5 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: JessellCookie_43 (EK1), MiamiPanther_43 (EK1), Salvatore2000_42 (EK1), Sorvannah_42 (EK1), TinyTimothy_41 (EK1), Wesak_42 (EK1), YellowPanda_44 (EK1),

Start 2:
• Found in 28 of 62 (45.2%) of genes in pham
• Manual Annotations of this start: 23 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Akoni_42 (EK2), AloeVera_43 (EK2), Ashton_43 (EK2), Astartes_42 (EK2), Atraxi_40 (EK2), Barroma_41 (EK2), Fede_41 (EK2), Fullmetal_42 (EK2), JimmyPG_42 (EK2), JordanFarm_44 (EK2), Keough_41 (EK2), Kosier_41 (EK2), Mazun_43 (EK2), Moleficent_42 (EK2), Morrill_40 (EK2), Pharky_42 (EK2), Phedro_42 (EK2), Phractured_42 (EK2), PhriedRice_43 (EK2), RicoCaldo_42 (EK2), ShyRosie_42 (EK2), SoilSleuth_44 (EK2), StagePhright_42 (EK2), ThirteenKH_42 (EK2), TrippleS_41 (EK2), Truong_42 (EK2), Waterlily_45 (EK2), Yafa_43 (EK2),

Start 5:
• Found in 10 of 62 (16.1%) of genes in pham
• Manual Annotations of this start: 8 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Biozilla_43 (EK1), CrunchyBoi_44 (EK1), EugeneKrabs_41 (EK), HitchHiker_44 (EK1), KingKamren_40 (EK), Oatly_43 (EK1), Pabst_41 (EK1), PineapplePluto_44 (EK1), TicTac_43 (EK1), Zhengyi_41 (EK),

Start 6:
• Found in 16 of 62 (25.8%) of genes in pham
• Manual Annotations of this start: 15 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Alex44_42 (EK1), ArMaWen_41 (EK1), Birdfeeder_40 (EK1), BlueRugrat_41 (EK1), Conditioner_41 (EK1), Corn21_41 (EK1), Dashyla_41 (EK1), DumpQuist_41 (EK1), LesNorah_42 (EK1), LilyLou_43 (EK1), Phogo_42 (EK1), Stormbreaker_42 (EK1), SwissCheezer_41 (EK1), TownLake_40 (EK1), Unphazed_42 (EK1), Xitlalli_40 (EK1),

Start 8:
• Found in 1 of 62 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Burro_38 (EM1),

Summary by clusters:

There are 4 clusters represented in this pham: EK, EM1, EK2, EK1,

Info for manual annotations of cluster EK:
•Start number 5 was manually annotated 3 times for cluster EK.

Info for manual annotations of cluster EK1:
•Start number 1 was manually annotated 5 times for cluster EK1.
•Start number 5 was manually annotated 5 times for cluster EK1.
•Start number 6 was manually annotated 15 times for cluster EK1.

Info for manual annotations of cluster EK2:
•Start number 2 was manually annotated 23 times for cluster EK2.

Info for manual annotations of cluster EM1:
•Start number 8 was manually annotated 1 time for cluster EM1.

Gene Information:

Gene: Akoni_42 Start: 42047, Stop: 43444, Start Num: 2
Candidate Starts for Akoni_42:
(Start: 2 @42047 has 23 MA's), (12, 42257), (31, 42560), (32, 42563), (33, 42569), (39, 42680), (41, 42707), (44, 42764), (52, 42854), (67, 43121), (75, 43199), (77, 43223), (85, 43331), (87, 43349), (90, 43403), (91, 43433),

Gene: Alex44_42 Start: 40386, Stop: 41651, Start Num: 6
Candidate Starts for Alex44_42:
(Start: 6 @40386 has 15 MA's), (14, 40497), (16, 40524), (24, 40665), (30, 40752), (38, 40851), (40, 40899), (51, 41046), (55, 41109), (66, 41283), (74, 41379), (76, 41403), (78, 41424), (79, 41433), (90, 41610),

Gene: AloeVera_43 Start: 42260, Stop: 43657, Start Num: 2
Candidate Starts for AloeVera_43:

(Start: 2 @42260 has 23 MA's), (12, 42470), (31, 42773), (32, 42776), (33, 42782), (39, 42893), (41, 42920), (44, 42977), (52, 43067), (67, 43334), (85, 43544), (87, 43562), (90, 43616), (91, 43646),

Gene: ArMaWen_41 Start: 39929, Stop: 41194, Start Num: 6
Candidate Starts for ArMaWen_41:
(Start: 6 @39929 has 15 MA's), (14, 40040), (16, 40067), (24, 40208), (38, 40394), (40, 40442), (51, 40589), (55, 40652), (66, 40826), (76, 40946), (78, 40967), (79, 40976), (90, 41153),

Gene: Ashton_43 Start: 42259, Stop: 43656, Start Num: 2
Candidate Starts for Ashton_43:
(Start: 2 @42259 has 23 MA's), (12, 42469), (31, 42772), (32, 42775), (33, 42781), (39, 42892), (41, 42919), (44, 42976), (52, 43066), (67, 43333), (85, 43543), (87, 43561), (90, 43615), (91, 43645),

Gene: Astartes_42 Start: 41791, Stop: 43206, Start Num: 2
Candidate Starts for Astartes_42:
(Start: 2 @41791 has 23 MA's), (9, 41944), (12, 41998), (13, 42007), (18, 42070), (19, 42076), (22, 42181), (44, 42526), (46, 42544), (52, 42619), (53, 42628), (54, 42673), (58, 42718), (70, 42913), (80, 43024), (82, 43036), (85, 43096), (87, 43114), (88, 43135), (91, 43195),

Gene: Atraxi_40 Start: 41583, Stop: 42998, Start Num: 2
Candidate Starts for Atraxi_40:
(Start: 2 @41583 has 23 MA's), (9, 41736), (12, 41790), (13, 41799), (18, 41862), (19, 41868), (22, 41973), (42, 42270), (52, 42411), (53, 42420), (54, 42465), (70, 42705), (71, 42735), (80, 42816), (82, 42828), (85, 42888), (87, 42906), (88, 42927), (91, 42987),

Gene: Barroma_41 Start: 42049, Stop: 43446, Start Num: 2
Candidate Starts for Barroma_41:
(Start: 2 @42049 has 23 MA's), (12, 42259), (32, 42565), (33, 42571), (39, 42682), (41, 42709), (44, 42766), (52, 42856), (67, 43123), (85, 43333), (87, 43351), (90, 43405), (91, 43435),

Gene: Biozilla_43 Start: 40335, Stop: 41606, Start Num: 5
Candidate Starts for Biozilla_43:
(Start: 5 @40335 has 8 MA's), (16, 40491), (17, 40500), (41, 40860), (52, 41004), (55, 41064), (60, 41172), (61, 41181), (62, 41187), (66, 41241), (71, 41322), (73, 41331), (74, 41337), (78, 41382), (79, 41391), (90, 41568),

Gene: Birdfeeder_40 Start: 40142, Stop: 41407, Start Num: 6
Candidate Starts for Birdfeeder_40:
(Start: 6 @40142 has 15 MA's), (14, 40253), (16, 40280), (24, 40421), (38, 40607), (40, 40655), (51, 40802), (55, 40865), (66, 41039), (76, 41159), (78, 41180), (79, 41189), (90, 41366),

Gene: BlueRugrat_41 Start: 40369, Stop: 41631, Start Num: 6
Candidate Starts for BlueRugrat_41:
(Start: 6 @40369 has 15 MA's), (14, 40480), (16, 40504), (24, 40645), (38, 40831), (40, 40879), (51, 41026), (55, 41089), (66, 41263), (76, 41383), (78, 41404), (79, 41413), (90, 41590),

Gene: Burro_38 Start: 43290, Stop: 44519, Start Num: 8
Candidate Starts for Burro_38:
(Start: 8 @43290 has 1 MA's), (25, 43587), (29, 43629), (41, 43803), (45, 43875), (48, 43902), (54, 44010), (63, 44154), (65, 44187), (68, 44220), (72, 44277), (81, 44334), (83, 44346),

Gene: Conditioner_41 Start: 40442, Stop: 41704, Start Num: 6
Candidate Starts for Conditioner_41:

(Start: 6 @40442 has 15 MA's), (14, 40553), (16, 40577), (38, 40904), (40, 40952), (51, 41099), (55, 41162), (66, 41336), (76, 41456), (78, 41477), (79, 41486), (90, 41663),

Gene: Corn21_41 Start: 40447, Stop: 41709, Start Num: 6
Candidate Starts for Corn21_41:
(Start: 6 @40447 has 15 MA's), (14, 40558), (16, 40582), (38, 40909), (40, 40957), (51, 41104), (55, 41167), (66, 41341), (76, 41461), (78, 41482), (79, 41491), (90, 41668),

Gene: CrunchyBoi_44 Start: 40190, Stop: 41461, Start Num: 5
Candidate Starts for CrunchyBoi_44:
(Start: 5 @40190 has 8 MA's), (16, 40346), (17, 40355), (41, 40715), (52, 40859), (55, 40919), (60, 41027), (61, 41036), (62, 41042), (66, 41096), (71, 41177), (73, 41186), (74, 41192), (78, 41237), (79, 41246), (90, 41423),

Gene: Dashyla_41 Start: 40060, Stop: 41325, Start Num: 6
Candidate Starts for Dashyla_41:
(Start: 6 @40060 has 15 MA's), (14, 40171), (16, 40198), (24, 40339), (38, 40525), (40, 40573), (51, 40720), (55, 40783), (66, 40957), (76, 41077), (78, 41098), (79, 41107), (90, 41284),

Gene: DumpQuist_41 Start: 39914, Stop: 41179, Start Num: 6
Candidate Starts for DumpQuist_41:
(Start: 6 @39914 has 15 MA's), (14, 40025), (16, 40052), (24, 40193), (30, 40280), (38, 40379), (40, 40427), (51, 40574), (55, 40637), (66, 40811), (76, 40931), (78, 40952), (79, 40961), (90, 41138),

Gene: EugeneKrabs_41 Start: 43199, Stop: 44470, Start Num: 5
Candidate Starts for EugeneKrabs_41:
(Start: 5 @43199 has 8 MA's), (11, 43286), (14, 43337), (25, 43532), (26, 43544), (35, 43643), (41, 43724), (49, 43829), (51, 43865), (52, 43868), (57, 43949), (59, 43979), (66, 44102), (74, 44198), (78, 44243), (79, 44252), (86, 44342), (87, 44357), (90, 44429),

Gene: Fede_41 Start: 40796, Stop: 42214, Start Num: 2
Candidate Starts for Fede_41:
(Start: 2 @40796 has 23 MA's), (9, 40946), (12, 41006), (13, 41015), (19, 41081), (20, 41087), (36, 41387), (37, 41396), (52, 41624), (54, 41678), (55, 41684), (70, 41918), (71, 41948), (87, 42119), (89, 42143), (90, 42173), (91, 42203),

Gene: Fullmetal_42 Start: 42165, Stop: 43583, Start Num: 2
Candidate Starts for Fullmetal_42:
(Start: 2 @42165 has 23 MA's), (9, 42321), (12, 42375), (13, 42384), (18, 42447), (19, 42453), (22, 42558), (28, 42660), (34, 42735), (44, 42903), (52, 42996), (53, 43005), (54, 43050), (56, 43059), (70, 43290), (80, 43401), (82, 43413), (85, 43473), (87, 43491), (88, 43512), (91, 43572),

Gene: HitchHiker_44 Start: 40335, Stop: 41606, Start Num: 5
Candidate Starts for HitchHiker_44:
(Start: 5 @40335 has 8 MA's), (16, 40491), (17, 40500), (41, 40860), (52, 41004), (55, 41064), (60, 41172), (61, 41181), (62, 41187), (66, 41241), (71, 41322), (73, 41331), (74, 41337), (78, 41382), (79, 41391), (90, 41568),

Gene: JessellCookie_43 Start: 41833, Stop: 43377, Start Num: 1
Candidate Starts for JessellCookie_43:
(Start: 1 @41833 has 5 MA's), (3, 41965), (4, 41998), (15, 42232), (21, 42310), (23, 42385), (29, 42469), (43, 42673), (52, 42778), (64, 42982), (66, 43012), (76, 43132), (78, 43153), (79, 43162), (86, 43252), (87, 43267), (90, 43339),

Gene: JimmyPG_42 Start: 42481, Stop: 43896, Start Num: 2
Candidate Starts for JimmyPG_42:
(Start: 2 @42481 has 23 MA's), (12, 42688), (19, 42766), (27, 42970), (34, 43048), (44, 43216), (52, 43309), (53, 43318), (54, 43363), (65, 43543), (69, 43591), (70, 43603), (80, 43714), (82, 43726), (84, 43756), (87, 43804),

Gene: JordanFarm_44 Start: 42260, Stop: 43657, Start Num: 2
Candidate Starts for JordanFarm_44:
(Start: 2 @42260 has 23 MA's), (12, 42470), (31, 42773), (32, 42776), (33, 42782), (39, 42893), (41, 42920), (44, 42977), (52, 43067), (67, 43334), (85, 43544), (87, 43562), (90, 43616), (91, 43646),

Gene: Keough_41 Start: 41919, Stop: 43337, Start Num: 2
Candidate Starts for Keough_41:
(Start: 2 @41919 has 23 MA's), (9, 42075), (12, 42129), (13, 42138), (18, 42201), (19, 42207), (41, 42600), (44, 42657), (47, 42690), (52, 42750), (53, 42759), (54, 42804), (70, 43044), (80, 43155), (82, 43167), (85, 43227), (87, 43245), (88, 43266), (91, 43326),

Gene: KingKamren_40 Start: 43153, Stop: 44424, Start Num: 5
Candidate Starts for KingKamren_40:
(Start: 5 @43153 has 8 MA's), (14, 43288), (25, 43486), (26, 43498), (35, 43597), (41, 43678), (51, 43819), (52, 43822), (62, 44002), (66, 44056), (74, 44152), (78, 44197), (79, 44206), (80, 44221), (86, 44296), (87, 44311), (90, 44383),

Gene: Kosier_41 Start: 40743, Stop: 42158, Start Num: 2
Candidate Starts for Kosier_41:
(Start: 2 @40743 has 23 MA's), (9, 40893), (12, 40950), (13, 40959), (19, 41025), (20, 41031), (36, 41331), (37, 41340), (52, 41568), (54, 41622), (55, 41628), (70, 41862), (71, 41892), (87, 42063), (89, 42087), (90, 42117), (91, 42147),

Gene: LesNorah_42 Start: 40766, Stop: 42028, Start Num: 6
Candidate Starts for LesNorah_42:
(Start: 6 @40766 has 15 MA's), (14, 40877), (16, 40901), (24, 41042), (38, 41228), (40, 41276), (51, 41423), (55, 41486), (66, 41660), (76, 41780), (78, 41801), (79, 41810), (90, 41987),

Gene: LilyLou_43 Start: 40378, Stop: 41643, Start Num: 6
Candidate Starts for LilyLou_43:
(Start: 6 @40378 has 15 MA's), (14, 40489), (16, 40516), (24, 40657), (38, 40843), (40, 40891), (51, 41038), (55, 41101), (66, 41275), (76, 41395), (78, 41416), (79, 41425), (90, 41602),

Gene: Mazun_43 Start: 42508, Stop: 43944, Start Num: 2
Candidate Starts for Mazun_43:
(Start: 2 @42508 has 23 MA's), (9, 42682), (12, 42736), (13, 42745), (18, 42808), (19, 42814), (41, 43207), (44, 43264), (47, 43297), (52, 43357), (53, 43366), (54, 43411), (70, 43651), (80, 43762), (82, 43774), (85, 43834), (87, 43852), (88, 43873), (91, 43933),

Gene: MiamiPanther_43 Start: 41833, Stop: 43377, Start Num: 1
Candidate Starts for MiamiPanther_43:
(Start: 1 @41833 has 5 MA's), (3, 41965), (4, 41998), (15, 42232), (21, 42310), (23, 42385), (29, 42469), (43, 42673), (52, 42778), (62, 42958), (64, 42982), (66, 43012), (76, 43132), (78, 43153), (79, 43162), (86, 43252), (87, 43267), (90, 43339),

Gene: Moleficent_42 Start: 42172, Stop: 43590, Start Num: 2

Candidate Starts for Moleficent_42:
(Start: 2 @42172 has 23 MA's), (9, 42328), (12, 42382), (13, 42391), (18, 42454), (19, 42460), (22, 42565), (28, 42667), (34, 42742), (44, 42910), (52, 43003), (53, 43012), (54, 43057), (56, 43066), (70, 43297), (80, 43408), (82, 43420), (85, 43480), (87, 43498), (88, 43519), (91, 43579),

Gene: Morrill_40 Start: 41563, Stop: 42978, Start Num: 2
Candidate Starts for Morrill_40:
(Start: 2 @41563 has 23 MA's), (9, 41716), (12, 41770), (13, 41779), (18, 41842), (19, 41848), (52, 42391), (53, 42400), (54, 42445), (70, 42685), (80, 42796), (82, 42808), (85, 42868), (87, 42886), (88, 42907), (91, 42967),

Gene: Oatly_43 Start: 39895, Stop: 41166, Start Num: 5
Candidate Starts for Oatly_43:
(Start: 5 @39895 has 8 MA's), (16, 40051), (17, 40060), (41, 40420), (52, 40564), (55, 40624), (60, 40732), (61, 40741), (62, 40747), (66, 40801), (71, 40882), (73, 40891), (74, 40897), (78, 40942), (79, 40951), (90, 41128),

Gene: Pabst_41 Start: 39947, Stop: 41236, Start Num: 5
Candidate Starts for Pabst_41:
(Start: 5 @39947 has 8 MA's), (7, 39968), (17, 40112), (29, 40319), (50, 40613), (61, 40811), (62, 40817), (66, 40871), (74, 40967), (78, 41012), (79, 41021), (90, 41198),

Gene: Pharky_42 Start: 42168, Stop: 43586, Start Num: 2
Candidate Starts for Pharky_42:
(Start: 2 @42168 has 23 MA's), (9, 42324), (12, 42378), (13, 42387), (18, 42450), (19, 42456), (22, 42561), (28, 42663), (34, 42738), (44, 42906), (52, 42999), (53, 43008), (54, 43053), (56, 43062), (70, 43293), (80, 43404), (82, 43416), (85, 43476), (87, 43494), (88, 43515), (91, 43575),

Gene: Phedro_42 Start: 42168, Stop: 43586, Start Num: 2
Candidate Starts for Phedro_42:
(Start: 2 @42168 has 23 MA's), (9, 42324), (12, 42378), (13, 42387), (18, 42450), (19, 42456), (22, 42561), (28, 42663), (34, 42738), (44, 42906), (52, 42999), (53, 43008), (54, 43053), (56, 43062), (70, 43293), (80, 43404), (82, 43416), (85, 43476), (87, 43494), (88, 43515), (91, 43575),

Gene: Phogo_42 Start: 40206, Stop: 41471, Start Num: 6
Candidate Starts for Phogo_42:
(Start: 6 @40206 has 15 MA's), (14, 40317), (16, 40344), (24, 40485), (38, 40671), (40, 40719), (51, 40866), (55, 40929), (66, 41103), (76, 41223), (78, 41244), (79, 41253), (90, 41430),

Gene: Phractured_42 Start: 42168, Stop: 43586, Start Num: 2
Candidate Starts for Phractured_42:
(Start: 2 @42168 has 23 MA's), (9, 42324), (12, 42378), (13, 42387), (18, 42450), (19, 42456), (22, 42561), (28, 42663), (34, 42738), (44, 42906), (52, 42999), (53, 43008), (54, 43053), (56, 43062), (70, 43293), (80, 43404), (82, 43416), (85, 43476), (87, 43494), (88, 43515), (91, 43575),

Gene: PhriedRice_43 Start: 42272, Stop: 43690, Start Num: 2
Candidate Starts for PhriedRice_43:
(Start: 2 @42272 has 23 MA's), (9, 42428), (12, 42482), (13, 42491), (18, 42554), (19, 42560), (22, 42665), (34, 42842), (44, 43010), (52, 43103), (53, 43112), (54, 43157), (56, 43166), (70, 43397), (80, 43508), (82, 43520), (85, 43580), (87, 43598), (88, 43619), (91, 43679),

Gene: PineapplePluto_44 Start: 40257, Stop: 41528, Start Num: 5
Candidate Starts for PineapplePluto_44:

(Start: 5 @40257 has 8 MA's), (16, 40413), (17, 40422), (41, 40782), (52, 40926), (55, 40986), (60, 41094), (61, 41103), (62, 41109), (66, 41163), (71, 41244), (73, 41253), (74, 41259), (78, 41304), (79, 41313), (90, 41490),

Gene: RicoCaldo_42 Start: 42250, Stop: 43668, Start Num: 2
Candidate Starts for RicoCaldo_42:
(Start: 2 @42250 has 23 MA's), (9, 42406), (12, 42460), (13, 42469), (18, 42532), (19, 42538), (22, 42643), (28, 42745), (34, 42820), (44, 42988), (52, 43081), (53, 43090), (54, 43135), (56, 43144), (70, 43375), (80, 43486), (82, 43498), (85, 43558), (87, 43576), (88, 43597), (91, 43657),

Gene: Salvatore2000_42 Start: 41833, Stop: 43377, Start Num: 1
Candidate Starts for Salvatore2000_42:
(Start: 1 @41833 has 5 MA's), (3, 41965), (4, 41998), (15, 42232), (21, 42310), (23, 42385), (29, 42469), (43, 42673), (52, 42778), (62, 42958), (64, 42982), (66, 43012), (76, 43132), (78, 43153), (79, 43162), (86, 43252), (87, 43267), (90, 43339),

Gene: ShyRosie_42 Start: 42269, Stop: 43666, Start Num: 2
Candidate Starts for ShyRosie_42:
(Start: 2 @42269 has 23 MA's), (12, 42479), (32, 42785), (33, 42791), (39, 42902), (41, 42929), (44, 42986), (52, 43076), (55, 43136), (67, 43343), (85, 43553), (87, 43571), (90, 43625), (91, 43655),

Gene: SoilSleuth_44 Start: 42091, Stop: 43488, Start Num: 2
Candidate Starts for SoilSleuth_44:
(Start: 2 @42091 has 23 MA's), (12, 42301), (33, 42613), (39, 42724), (41, 42751), (44, 42808), (52, 42898), (67, 43165), (75, 43243), (77, 43267), (85, 43375), (87, 43393), (90, 43447), (91, 43477),

Gene: Sorvannah_42 Start: 41833, Stop: 43377, Start Num: 1
Candidate Starts for Sorvannah_42:
(Start: 1 @41833 has 5 MA's), (3, 41965), (4, 41998), (15, 42232), (21, 42310), (23, 42385), (29, 42469), (43, 42673), (52, 42778), (62, 42958), (64, 42982), (66, 43012), (76, 43132), (78, 43153), (79, 43162), (86, 43252), (87, 43267), (90, 43339),

Gene: StagePhright_42 Start: 42168, Stop: 43586, Start Num: 2
Candidate Starts for StagePhright_42:
(Start: 2 @42168 has 23 MA's), (9, 42324), (12, 42378), (13, 42387), (18, 42450), (19, 42456), (22, 42561), (28, 42663), (34, 42738), (44, 42906), (52, 42999), (53, 43008), (54, 43053), (56, 43062), (70, 43293), (80, 43404), (82, 43416), (85, 43476), (87, 43494), (88, 43515), (91, 43575),

Gene: Stormbreaker_42 Start: 40294, Stop: 41559, Start Num: 6
Candidate Starts for Stormbreaker_42:
(Start: 6 @40294 has 15 MA's), (14, 40405), (16, 40432), (24, 40573), (38, 40759), (40, 40807), (51, 40954), (55, 41017), (66, 41191), (76, 41311), (78, 41332), (79, 41341), (90, 41518),

Gene: SwissCheezer_41 Start: 39946, Stop: 41211, Start Num: 6
Candidate Starts for SwissCheezer_41:
(Start: 6 @39946 has 15 MA's), (14, 40057), (16, 40084), (24, 40225), (38, 40411), (40, 40459), (51, 40606), (55, 40669), (66, 40843), (76, 40963), (78, 40984), (79, 40993), (90, 41170),

Gene: ThirteenKH_42 Start: 41573, Stop: 42988, Start Num: 2
Candidate Starts for ThirteenKH_42:
(Start: 2 @41573 has 23 MA's), (9, 41726), (12, 41780), (13, 41789), (18, 41852), (19, 41858), (22, 41963), (49, 42356), (52, 42401), (53, 42410), (54, 42455), (70, 42695), (71, 42725), (80, 42806), (82, 42818), (85, 42878), (87, 42896), (88, 42917), (91, 42977),

Gene: TicTac_43 Start: 40256, Stop: 41536, Start Num: 5
Candidate Starts for TicTac_43:
(Start: 5 @40256 has 8 MA's), (7, 40277), (16, 40412), (17, 40421), (29, 40619), (41, 40790), (52, 40934), (55, 40994), (60, 41102), (61, 41111), (62, 41117), (66, 41171), (71, 41252), (73, 41261), (74, 41267), (78, 41312), (79, 41321), (90, 41498),

Gene: TinyTimothy_41 Start: 41833, Stop: 43377, Start Num: 1
Candidate Starts for TinyTimothy_41:
(Start: 1 @41833 has 5 MA's), (3, 41965), (4, 41998), (15, 42232), (21, 42310), (23, 42385), (29, 42469), (43, 42673), (52, 42778), (62, 42958), (64, 42982), (66, 43012), (76, 43132), (78, 43153), (79, 43162), (86, 43252), (87, 43267), (90, 43339),

Gene: TownLake_40 Start: 40056, Stop: 41318, Start Num: 6
Candidate Starts for TownLake_40:
(Start: 6 @40056 has 15 MA's), (14, 40167), (16, 40191), (38, 40518), (40, 40566), (51, 40713), (55, 40776), (66, 40950), (76, 41070), (78, 41091), (79, 41100), (90, 41277),

Gene: TrippleS_41 Start: 41722, Stop: 43137, Start Num: 2
Candidate Starts for TrippleS_41:
(Start: 2 @41722 has 23 MA's), (9, 41875), (12, 41929), (13, 41938), (18, 42001), (19, 42007), (42, 42409), (44, 42457), (52, 42550), (53, 42559), (54, 42604), (70, 42844), (71, 42874), (80, 42955), (82, 42967), (85, 43027), (87, 43045), (88, 43066), (91, 43126),

Gene: Truong_42 Start: 42049, Stop: 43446, Start Num: 2
Candidate Starts for Truong_42:
(Start: 2 @42049 has 23 MA's), (12, 42259), (32, 42565), (33, 42571), (39, 42682), (41, 42709), (44, 42766), (52, 42856), (67, 43123), (85, 43333), (87, 43351), (90, 43405), (91, 43435),

Gene: Unphazed_42 Start: 40170, Stop: 41432, Start Num: 6
Candidate Starts for Unphazed_42:
(Start: 6 @40170 has 15 MA's), (14, 40281), (16, 40305), (38, 40632), (40, 40680), (51, 40827), (55, 40890), (66, 41064), (76, 41184), (78, 41205), (79, 41214), (90, 41391),

Gene: Waterlily_45 Start: 42303, Stop: 43700, Start Num: 2
Candidate Starts for Waterlily_45:
(Start: 2 @42303 has 23 MA's), (12, 42513), (31, 42816), (32, 42819), (33, 42825), (39, 42936), (41, 42963), (44, 43020), (52, 43110), (67, 43377), (85, 43587), (87, 43605), (90, 43659), (91, 43689),

Gene: Wesak_42 Start: 41675, Stop: 43219, Start Num: 1
Candidate Starts for Wesak_42:
(Start: 1 @41675 has 5 MA's), (3, 41807), (4, 41840), (15, 42074), (21, 42152), (23, 42227), (29, 42311), (43, 42515), (52, 42620), (62, 42800), (64, 42824), (66, 42854), (76, 42974), (78, 42995), (79, 43004), (86, 43094), (87, 43109), (90, 43181),

Gene: Xitlalli_40 Start: 40171, Stop: 41436, Start Num: 6
Candidate Starts for Xitlalli_40:
(Start: 6 @40171 has 15 MA's), (14, 40282), (16, 40309), (24, 40450), (38, 40636), (40, 40684), (51, 40831), (55, 40894), (56, 40897), (65, 41059), (66, 41068), (76, 41188), (78, 41209), (79, 41218), (80, 41233), (90, 41395),

Gene: Yafa_43 Start: 41477, Stop: 42892, Start Num: 2
Candidate Starts for Yafa_43:

(Start: 2 @41477 has 23 MA's), (9, 41630), (10, 41633), (12, 41684), (13, 41693), (18, 41756), (19, 41762), (22, 41867), (49, 42260), (52, 42305), (53, 42314), (54, 42359), (71, 42629), (80, 42710), (82, 42722), (85, 42782), (87, 42800), (88, 42821), (91, 42881),

Gene: YellowPanda_44 Start: 41556, Stop: 43100, Start Num: 1
Candidate Starts for YellowPanda_44:
(Start: 1 @41556 has 5 MA's), (3, 41688), (4, 41721), (15, 41955), (21, 42033), (23, 42108), (29, 42192), (43, 42396), (52, 42501), (62, 42681), (64, 42705), (66, 42735), (76, 42855), (78, 42876), (79, 42885), (86, 42975), (87, 42990), (90, 43062),

Gene: Zhengyi_41 Start: 43248, Stop: 44519, Start Num: 5
Candidate Starts for Zhengyi_41:
(Start: 5 @43248 has 8 MA's), (11, 43335), (14, 43386), (25, 43581), (26, 43593), (35, 43692), (41, 43773), (49, 43878), (52, 43917), (57, 43998), (59, 44028), (66, 44151), (74, 44247), (78, 44292), (79, 44301), (86, 44391), (87, 44406), (90, 44478),